### MANAGEMENT PROBLEMS AND OPPORTUNITIES

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The Missouri Department of Conservation (MDC) is charged with the '... control, management, restoration, conservation and regulation of the bird, fish, game, forestry and all wildlife resources of the state ....' As stated in MDC's recent Regional Management Guideline documents (1999a), 'The Conservation vision is to have healthy, sustainable plant and animal communities throughout the state of Missouri for future generations to use and enjoy, and that fish, forest, and wildlife resources are in appreciably better condition tomorrow than they are today.' In order to achieve this vision, efforts to better manage streams and their watersheds will be a continuing priority in the Sac River watershed. This section includes strategic guidelines to provide MDC Fisheries Division staff working in the watershed with management direction to address the issues detailed in earlier sections. These issues include point and non-point source pollution, increasing urbanization, loss of riparian vegetation, the effects of concentrated animal operations, mining influences, dam and hydropower influences, instream flow issues, increasing demands for recreation, and threats to aquatic life within the watershed. The guidelines will be used to address future stream management, public awareness, and public access issues and needs.

# GOAL I: IMPROVE WATER QUALITY AND MAINTAIN OR IMPROVE WATER QUANTITY IN THE SAC RIVER WATERSHED SO ALL STREAMS ARE CAPABLE OF SUPPORTING HIGH QUALITY AQUATIC COMMUNITIES.

**Objective I.1:** Streams within the watershed will meet state standards for water quality.

#### **Guidelines:**

- Enhance people's awareness of 1) water quality problems (i.e., point source pollution, animal waste runoff, etc.) affecting aquatic biota, 2) viable solutions to these problems, and 3) their role in implementing these solutions.
- Review NPDES, Section 404, and other permits and either recommend denial or appropriate mitigation for those which are harmful to aquatic resources, and investigate pollution events and fish and mussel kills.
- Work with the Missouri Department of Health and MDNR to monitor and reduce contaminant levels in fish.
- Work with MDNR to monitor water quality, improve water quality, and ensure compliance with discharge permits. With training, volunteer groups, such as Stream Teams, can assist with water quality monitoring. Related efforts, such as MDC's Resource Assessment and Monitoring (RAM) program, which will track aquatic biota and habitat trends statewide, should also be implemented in the basin.
- Serve in an advisory role to citizen organizations and local governments on water resource issues.

**Objective I.2:** Maintain base flows in streams within the watershed at or above current levels within the constraints imposed by natural seasonal variations and precipitation.

- Establish flow regimes that protect or enhance fish and other aquatic life.
- Cooperate in efforts to develop and implement a comprehensive water management plan for the Osage River basin impoundments, including Stockton Lake, that addresses both instream flows and reservoir elevation issues.
- Working with MDNR and USCOE, protect or enhance stream flows through oversight and enforcement of existing water withdrawal permits and other related permits.
- Support development of water law and an interstate compact/agreement that will address the quantity of water in Missouri's streams.
- Increase public awareness of and concern for water quantity problems, the affected aquatic biota, and potential solutions.

## GOAL II: IMPROVE RIPARIAN AND AQUATIC HABITAT CONDITIONS IN THE SAC RIVER WATERSHED TO MEET THE NEEDS OF AQUATIC SPECIES WHILE ACCOMMODATING DEMANDS FOR WATER AND AGRICULTURAL PRODUCTION.

**Objective II.1:** Riparian landowners will understand the importance of good stream stewardship and where to obtain technical assistance for sound stream habitat improvement.

#### **Guidelines:**

- Work with MDC's Outreach and Education and Private Lands divisions to develop and distribute stream management related materials and present related courses for elementary and secondary school teachers.
- Establish and maintain stream management demonstration sites.
- Promote good stream stewardship through landowner workshops and stream demonstration site tours.

**Objective II.2:** Maintain, expand, and restore riparian corridors; enhance watershed management; improve instream habitat; and reduce streambank erosion throughout the watershed.

- Periodically monitor and assess habitat and riparian area conditions on selected streams in the watershed.
- Ensure that all MDC areas are examples of good stream and watershed management. Utilize Stream Team volunteers to implement selected projects.
- Provide technical recommendations to all landowners that request assistance.
- Improve riparian corridor and watershed conditions by actively cooperating with other agencies on watershed-based projects.
- Improve landowner stewardship of streams by promoting and implementing cost share programs, including MDC's watershed-based programs, that include streambank stabilization, alternative watering provisions, and establishment and maintenance of quality riparian corridors.

• Identify gravel removal sites throughout the watershed and work with permitting agencies to implement appropriate conditions on these operations to minimize impacts on aquatic life.

**Objective II.3:** Critical and unique aquatic habitats will be identified and protected from degradation.

#### **Guidelines:**

- Conduct additional fish and aquatic invertebrate population samplings to further define and delineate unique and critical habitats.
- Collect additional background information from the public and resource professionals to better define critical and unique aquatic habitats.
- Acquire, protect, and enhance critical and unique aquatic habitats.

## GOAL III: MAINTAIN DIVERSE AND ABUNDANT POPULATIONS OF AQUATIC ORGANISMS WHILE ACCOMMODATING ANGLER DEMANDS FOR QUALITY FISHING.

**Objective III.1:** Evaluate and maintain sportfish populations and maintain sufficient quality and condition of these populations to satisfy the angling public.

#### **Guidelines:**

- Develop and implement a monitoring program to obtain trend data on sportfish populations and angler use of these populations in selected stream reaches.
- Identify critical habitat areas for sportfish species and maintain or enhance these areas as needed to improve habitat.
- Using regulations, habitat improvement, and other methods, continue implementation of population improvement programs for sportfish species.
- Increase angler awareness of the recreational potential of fishes such as catfish, buffalo, carp, drum, and gar.

**Objective III.2:** Maintain populations of native non-game fishes, including the Niangua darter, and aquatic invertebrates at or above present levels throughout the watershed.

- Develop standard sampling techniques for assessing fish and invertebrate communities, including the use of indicator species. Implement a monitoring program to track trends in species diversity and abundance.
- Maintain or enhance aquatic biodiversity and abundance using regulations, stocking, habitat improvement, and related techniques.
- Continue public awareness and habitat management efforts related to aquatic species of special concern. Consider additional possibilities for non-MDC funding for additional inventory work, continued public awareness efforts, and habitat management efforts.
- Protect and improve habitats that support populations of aquatic species of special concern by

implementing MDC cost share programs and encouraging cost share practices that protect and enhance streams, riparian areas, sinkholes, caves, and springs to be included on NRCS/SWCD dockets.

- Participate in species recovery efforts including interstate conferences and recovery team meetings.
- Conduct surveys in streams where there is a lack of data. In particular, Turkey Creek should be surveyed.

### GOAL IV: IMPROVE THE PUBLIC'S APPRECIATION FOR STREAM RESOURCES AND INCREASE RECREATIONAL USE OF STREAMS IN THE SAC RIVER WATERSHED.

**Objective IV.1:** Access sites, bank fishing areas, and trails will be developed and maintained in sufficient numbers to accommodate public use.

#### **Guidelines:**

- Conduct a recreational use survey within the watershed in conjunction with an angler survey to determine existing levels of use and satisfaction with recreational opportunities in the watershed.
- Acquire and develop appropriate public access and frontage sites.
- Improve bank fishing and other aquatic wildlife-based recreational opportunities on public lands.

**Objective IV.2:** Increase the general public's awareness of stream recreational opportunities, local stream resources, and good watershed and stream management practices.

- Working with MDC's Outreach and Education Division staff, highlight streams in aquatic education programs. Identify and develop stream locations appropriate for educational field trips near participating schools.
- Maintain a stream emphasis at public events such as the Ozark Empire Fair, Springfield Boat Show, etc.
- Assist in the development of articles, videos, etc. that highlight Sac River watershed recreational opportunities.
- Prepare an annual fishing prospectus for selected streams.
- Promote the formation of Stream Teams and Stream Team associations within the watershed.
- Distribute information through Stream Teams and related organizations, including the Watershed Committee of the Ozarks.